Arrowhead Intelligent Region Initiative Project Ideas

From Project Development Meeting - March 12, 2021

NE MN Regional Welcoming Strategy

Description: After much research and conversation about best practices in rural communities across Minnesota, Northspan proposed a start-up project introducing the Intercultural Development Inventory (IDI) to governments and quasi-governmental community groups and organizations across northeast Minnesota. To create Welcoming Communities and engage in equity learning, we must increase our intercultural fluency. The IDI allows extensive and in-depth insights on individual and group levels of intercultural fluency. This is accomplished through sophisticated, customized IDI Individual Profile Reports and IDI Group Profile Reports. Our project consists of introducing and conducting the IDI with at least 20 groups, hoping to reach nearly 140 individuals.

As part of this project, we plan to partner to create an Advisory Committee to assist in developing further programming and build a network of Welcoming Communities colleagues across the 7-county region.

Our hope is that the Advisory Committee will create a sustainable, long-term strategy that may include identifying & increasing cultural fluency trainers/capacity in the region, enhancing cultural fluency training opportunities, providing BIPOC leadership and capacity building opportunities, and advancing DEI policies across the region.

Geographic Scope: 7-county area of the NE MN Arrowhead

Estimated Budget: $25,000 as part of a larger budget. We have raised some funds already.

For more information, contact: Elissa Hansen, Northspan President & CEO, Facilitating the start of the Advisory Committee for this regional strategy, ehansen@northspan.org

Small Business Technology Assessments and Implementation

Description: Small businesses can apply to receive a one-on-one assessment/audit of their current use of technology in their business operations. The consultant will provide recommendations for additional technology the business could adopt to increase revenue or create efficiencies in business operations. Northland SBDC could provide the one-on-one consulting/recommendations as part of their services through the region.

The second phase of the project is implementation. Small businesses can apply or have access to a small pool of money $1,500 to $2,000 to implement the technology (equipment, installation, training, etc.). A match from the business may be required (to be discussed in developing the final plan). Specific communities (cities, counties, EDAs) could or may need to provide some matching grant funding for implementation in their communities.

The third phase of the project (optional) may be additional training or support for the small business on optimal use and leverage of the new technology. This portion maybe is provided by Northland SBDC or maybe could be part of the implementation budget if specialty consulting is required.

- Consideration to required community investment, allocation of funding (if demand exceeds available funding), etc. will need to be further investigated.
- The number of businesses served could be adjusted from the 100 included in the budget depending on the allotted time for grant execution.
- If non-profits will also be included, additional discussion on if SBDC services can be used for those nonprofits also needs to be discussed.
- Responsibilities around fiscal agents for implementation funds and grant reporting will also need to be defined.
- Business implementation grant match requirements for equipment versus services may vary and will need to be defined.

Geographic Scope: 7 counties of NE Minneosta

Estimated Budget: To serve 100 small businesses through the region, here's a preliminary budget. Splits between grant funding, community investment, business match, and SBDC consulting will need to be further defined.

- SBDC Consulting Value: (provided through SBDC operating budget): $40,000
- Grant Administration and Marketing: $15,000 plus leveraging EDA, city, and other networks to promote the program
- Implementation Funding (including AIR initiative grant funds, business match, and possibly additional community commitments likely encumbered to specific communities): $150,000-200,000
- Post-Implementation Training/Consulting (possibly SBDC consulting, possibly paid specialty consulting?): $20,000

For more information, contact: Vicki Hagberg, Small Business Consultant,
VICKI@NORTHLANDSBDC.ORG

Arrowhead Children's Publishing Cooperative

Description: This is a proof-of-concept collaboration between Cook County-based Minnesota Children's Press, www.minnchildpress.org, and Itasca County-based 100 Rural Women, www.100ruralwomen.org to develop a children's entrepreneurial book publishing cooperative serving four regional goals:

1) intelligently improve the culture of rural children ages 5-15 and their career readiness by providing upskilling digital literacy experiences we offer through creating editorial makers' spaces, online workshops, mentors and skill-building authoring, illustration, digital media and marketing resources.
2) Target a development lane and create a leadership network for girls ages 5-18 for whom our Coop models, mentors and produces books series that showcase women characters interacting with the world in impactful, confident, creative and humane ways that engender the wellbeing of all.
3) Write, illustrate, publish and sell local history books by kids ages 5-15, extending Minnesota Children's Press' (MinnChild's) successful Pandemic Publishing Project of child-created books that children sell to fund community projects selected by MinnChild's Youth in Philanthropy (YIP) board: "A Children's History of Grand Marais, Minnesota: Ice Cream & Fish" www.icecreamandfish.org and "Safe and Happy: A Children's Field Guide to Pandemic Publishing." www.safeandhappy.org
4) Build a rural-led network of Minnesota girls who solve problems and build sustainable communities through digital and print communications as writers, illustrators, designers, bloggers, strategic social media influencers and publishers of local history, fiction, graphic novels, web sites and more.

Geographic Scope: The pilot begins in Cook and Itasca counties, with a goal of creating hubs in all 7 counties of the Arrowhead Region.

Estimated Budget: $50,000 planning, prototype development, and pilot rollout.

For more information, contact:
Anne Brataas, Chief Curiosity Officer, MN Children's Press, anne@minnchildpress.org
Teresa Kittridge, Founder of 100 Rural Women, teresa@100ruralwomen.org

USDA processing plant site

Description: Our area farmers/cattle ranchers has asked for years to have a local site where meat products could be processed and certified so that they can be marketed locally in restaurants and markets.

Geographic Scope: In Bemidji they utilize a mobile unit - anywhere on the Range

Estimated Budget: The challenge is getting a USDA inspector on site on a regular basis. There is a formerly certified site in Great Scott Township that may be an option

For more information, contact: Steve Giorgi, Director of RAMS, sgiorgi@ramsmn.org

Smart Street Lighting

Description: Street lights, as with many pieces of a city's infrastructure, offer an enormous opportunity as we digitize our world. Often, when a city starts delving into municipal technology projects, they start with streetlights. At first, this is a simple cost savings option when older street lights are updated to LED fixtures. However, as we explore the opportunities further, we can clearly find how these old infrastructure details can help propel a city into the future in a very powerful way.

Smart North is a fledgling nonprofit organization found out of the opportunities we have seen while working in the "Smart City" space. We came together from a common vision of seeing what is possible by helping the places we live take advantage of these technologies and services making our neighborhood safer, more efficient, resilient and economically stronger.

Smart North wants to help our communities learn about these opportunities. We want to work with municipalities to envision strategies to bring these tools online.

Making our street lights smarter is about much more than making lights LED, it is about allowing the construction of an economic platform that knits our communities together. A Smart Lighting grid can allow different city departments to access and share data from water meters, to parking availability, allowing robust 5G connectivity throughout the city, and providing municipal WIFI access. A City's police and fire departments can increase the brightness of street lights during an emergency. Citizens benefit from a dynamic system that illuminates streets upon need, not only upon time of day or sunlight available. Citizens can get internet access, find parking easier, have more robust way-finding solutions to name just a few advantages. A digital platform like this can allow a whole new economy to form and operate in a way that benefits the city.

Smart North is in in the position to advise and consult with municipalities of all sizes to learn about and begin the process of engaging with these opportunities.

Geographic Scope: Any/all

Estimated Budget: TBD

For more information, contact: Jason Barnett, Smart North - Founding member,
jasonfbarnett@gmail.com

Zoom retrofit for classrooms

Description: 50 school buildings in the NE region of MN and part of Education Innovation Partners, need an equipment retrofit to use Zoom for classes across districts.

Geographic Scope: Ely to Cook County to Aitkin to Deer River, 22 districts

Estimated Budget: 50,000

For more information, contact: Mary Wimmer, coordinator for EIP, mjwimmer80@gmail.com

Community Tech and Innovation Hubs

Description: The core idea behind this project is to drive socio-economic transformation through digital and tech equity.

We are imagining a world where all rural communities have a 'community tech hub', that is powered by high-speed broadband, digital and smart technologies, where high school and college students trained by an ecosystem of educational institutions provide tech and digital support and training to multigenerational residents, small businesses and budding entrepreneurs.

We believe this grassroots work will not only open up the local economy for innovation but also bring future jobs, industries, and residents to the region.

This project will aim to
1. Create a framework for a Community Tech Hub,
2. Identify an ecosystem of stakeholders required to support this and,
3. Shortlist at least one community where the first Community Tech Hub could go live, as a living example or template, which could be then replicated in other communities in the region.

Geographic Scope: Anywhere in the Arrowhead region.

Potential Partnership: Tamara Lowney (Launch MN) and with Betsy Olivanti (SBDC). Additionally, we will add one with a city/community council level to address the Tech support and needs of the local residents and with a community college and second, with a high school for the youth.

Estimated Budget: Not estimated yet as it will depend on the inputs/suggestions we get on March 12th.

For more information, contact: Sabina Saksena, Smart North Founder, sabina.saksena@cytilife.com

Regional Partnership - Affordable Housing Connectivity

Description: We will work with regional affordable housing providers to launch a study on how best to provide high quality, low cost, internet connection to residents of their buildings who have limited incomes and are seeking digital connectivity. This will include Digital Navigation services to assist residents in getting connected and accessing resources. Potential partners may include: the Hibbing HRA, City of Ely and/or Ely HRA, and Ecolibrium3 in Duluth.

Geographic Scope: St. Louis County

Estimated Budget: $25,000 for the study; and up to $100,000 total for two demonstration projects with the majority going to installation and the rest for Digital Navigation services.

For more information, contact: Pam Kramer, LISC Executive Director, pkramer@lisc.org

Iron Range Future Mobility Innovation Ecosystem Building Initiative

A regional economic development effort to promote the state of Minnesota and the rural Arrowhead region in the future mobility industry, building from the Grand Rapids May Mobility shuttle operations

Project Description: Background: In November 2020, the PLUM Catalyst brought together a team for the scoping and writing of a MnDOT Connected and Automated Vehicle (CAV) RFP program on behalf of the Autonomous Shuttle Co, May Mobility, and the public/private team of stakeholders. Working with the IRRR, City of Grand Rapids, May Mobility, Via, and other local stakeholders, the final MnDOT CAV Challenge RFP submission (submitted on Feb 11, 2021) proposed a funding contribution of approximately 40% of the total project which included funding for 18 months of shuttle operations in Grand Rapids with a focus on 12 miles of on-demand service, specifically targeting elderly, accessibility, and tourism service operations. The project also includes University of Minnesota AV-related research to learn and share from the innovative pilot program. The Grand Rapids team of stakeholders expressed interest in also pursuing Economic & Workforce Development related project(s) associated with the proposed CAV shuttle project.   MnDOT funding could not be allocated for economic & workforce development related efforts so this effort was saved for future funding options (like this AIR initiative!). The future mobility and CAV industry is booming as a high growth, high paying industry. Major automotive and mobility companies are investing millions into the research and launch of their new AV/EV technologies. Start-ups are receiving billions of dollars in VC funding and significant partnerships are popping up in the industry as more and more manufacturers and moving toward early deployment and edge case reliability testing. One major area of interest by the government agencies and the manufacturers alike is additional reliability and living lab testing in RURAL, WINTER conditions. The Arrowhead region is well suited to set-up our own future mobility ecosystem, helping to drive new learnings in the industry while capturing a seat in the new booming industry. Unbeknownst to many locals, Minnesota even has some of the best in industry winter weather reliability testing in Baudette, MN with the Automotive Enviro Testing site (https://www.aettesting.com/); used by many automotive manufacturers already! The Grand Iron Range Future Mobility Innovation Ecosystem will build out NE Minnesota's own living lab environment so the region can be well suited to capture the next phase of the future mobility innovation ecosystem by providing the global automotive and future mobility industry with a center of excellence for a RURAL, WINTER focused living lab, collaboration space, state start-up funds and more. Let's show the industry that the Minnesota Arrowhead region is "open for business" providing a Rural Winter Weather Living Lab Environment for Research, Testing, Validating and Manufacturing the new future mobility solutions!

Geographic Scope: NE Minnesota/Arrowhead region

Estimated budget: $50,000

For more information, contact: Tammy Meehan Russell, Project Manager, The Grand Iron Range CAV Initiative (President, The PLUM Catalyst), tammy@theplumcatalyst.com

NORTHFORCE Student Connect

Description: Student Connect, powered by NORTHFORCE, serves students across the entire NORTHFORCE region, partnering with higher education and (K-12 institutions in Fall 2021). The purpose is to retain talent locally by creating an environment where students feel welcomed into our community and develop genuine professional connections.

This session (Jan 2021-May 2021), our pilot Student Connect session, we welcomed all higher education students at all levels with all majors/minors/interests from all 12 of the NORTHFORCE region's colleges including:

- College of St. Scholastica
- Fond du Lac Tribal and Community College
- Hibbing Community College
- Itasca Community College
- Lake Superior College
- Mesabi Range College
- Northland College

- Rainy River Community College
- University of Minnesota Duluth
- University of Wisconsin Superior
- Vermillion Community College
- Wisconsin Indianhead Technical College Ashland & Superior campuses

This was launched very small scope to see what we were capable of and so far we are having great results. We'd like to greatly expand the marketing and grow it into K-12. It is all being done virtually via Zoom. This is what we share with students, for why they should engage with Student Connect:

Why Do You Want To Participate? To Get Connected | Curated | Community!
1. Connected| Get to know your community and find rewarding local employment. Meet with local companies looking to hire now and in the future Learn about opportunities to get involved Find places to volunteer
2. Curated| Enhance your education and career search with personalized services. Each NORTHFORCE employer & job post is reviewed and vetted Get career advice from experienced local professionals including feedback on your NORTHFORCE profile and a resume review Sign up to complete your own Intercultural Development Inventory (IDI) Assessment and an individual IDI Debrief tailored to your Developmental Orientation (DO)
3. Community| Plug into the Northland — stay #NorthByChoice! Meet other students from across the region Make connections with major area employers and leading professionals Discover all the region's resources at www.NorthByChoice.org   Check out the overview at: https://northforce.org/student-connect/

Geographic Scope: 7-counties of the NE MN Arrowhead plus Douglas, Bayfield and Ashland counties in WI

Estimated Budget: $20,000

For more information, contact: Elissa Hansen, Northspan President & CEO, Northspan powers NORTHFORCE Student Connect, ehansen@northspan.org

Launch MN - Innovate218

Description: Launch MN is a statewide initiative in which Itasca County is the newest member, the program incorporates partners and communities throughout the entire Arrowhead region to create additional resources for a sustainable entrepreneurship ecosystem. This includes activities such as networking, education, and access to capital. Our current finances will allow us to complete one cohort of entrepreneurship education through ILT Studios, as well as create our marketing materials for the program, with additional funding we would increase our marketing to engage with more entrepreneurs as well as create an investment event comparable to shark tank to help fund seed rounds for these entrepreneurs.

Currently, we have these partners at the table: APEX, Itasca Economic Development Corporation, IRRR, Entrepreneur Fund, NRRI, Northspan Group, Community partners such as co-working space, and more.

Geographic Scope: Arrowhead Region

Estimated Budget: Our current budget is $60,000 and we are currently looking to raise an additional $50,000 to build the program making our total budget $110,000.

For more information, contact: Tamara Lowney, President, tlowney@itascadv.org

NE MN or SLC County Schools Student Internet Access Improvement Project

Description:
1. Regional Speed Test Marketing Push – school district assignment and some general marketing dollars (ALL OF NE). I think it needs to have prizes or be a competition or a homework assignment…
2. Work with GEO Partners LLC to provide the speed test map format and link
3. Analysis of the speed tests (GEO helps identify the top x areas to target – those areas with the worse speeds and most students who may benefit).
4. GEO Partners can also provide cost analysis for wireless system deployment, tower locations, usage of existing water towers, etc.
5. We engage with school district(s) to present a handful of good pockets for fixed wireless projects.
6. Identify a provider partner. This is the hard part. We would want quality fixed wireless…If it makes sense, I would like to see the long term asset (at least any extension of fiber assets or new towers) remain with somebody like NESC or the local power cooperatives or local townships – ie: the Coop Light & Power model (Formation of a Co-op?)
7. Secure agency, county, school covid funds to implement the sites for improved internet service via fixed wireless.

Geographic Scope: NE MN or SLC County

Estimated Budget: estimated grant request $15,000 to $20,000

For more information, contact: Steve Giorgi, RAMS, SGiorgi@ramsmn.org

Smart Buildings for Efficient Operations & Energy Savings

Description: Consulting and Coordination of assessments/analysis and solution definition/implementation to make commercial buildings (and the people who own, manage and occupy them) smarter, more efficient, accessible, resilient, and sustainable. This could be done with municipalities and/or private commercial building owners.

While new-building policies, codes and design/build requirements help to establish parameters for energy efficiency and may employ state-of-the-art technologies for new development, the massive portfolio of existing buildings present immediate opportunities for significant energy savings and even greater value for efficient operations (with remote monitoring and management), plus enhancing the comfort, productivity, and wellness for the ultimate customers: occupants.

Utility Data is a great starting point, understanding current consumption trends and costs, and serving as a basis for benchmarking against other like-type buildings. Several resources, programs, and tools help in this effort. Private building owners and municipalities alike can benefit from data and insights around energy use and costs.

Beyond utility data, Smart IoT-based sensing and controls can help with remote monitoring and management, especially for geographically dispersed building portfolios, helping to manage settings and schedules, monitor indoor environment qualities (temp, humidity, CO_2/VoCs, etc.), plus monitor HVAC and other equipment performance and conduct remote diagnostics, which can reduce the need to travel for onsite assessments and which can help inform the nature of issues so that the travel and onsite visits are focused and efficient. Remote access control management can help with security and efficiency in managing service providers and visitors. Indoor Air Quality (IAQ), Occupancy and Daylight sensing can help provide data and insights on the quality, as well as automate HVAC/lighting to run only when needed to reach desired levels. And, scans and "digital twin" building information management (BIM) technologies can help in understanding the as-built realities of a space, for remotely and efficiently managing assets and planning enhancements/changes.

In addition to reducing operating expenses and carbon and enhancing the indoor environment quality and property value, this effort would help to digitize, create data and measures, improve remote access for diverse stakeholder teams, and incrementally move toward telecommuting (for those owning/managing buildings), despite buildings' inherent physical location-based nature. We're interested in understanding the current state of smart/energy-efficient buildings initiatives and resources in place and where we could help to close the gap toward the future vision.

Geographic Scope: open

Estimated Budget: Dependent upon scope; consulting vs. analysis vs. solution design and implementation. Incentives and financing for energy-efficiency can have a significant impact on the ROI/payback timing.

For more information, contact: Ben Wallace, Co-founder Smart North; Co-founder Minify Energy, Ben@MinifyEnergy.com

North Shore Geothermal Energy Education & Design Center Feasibility Study

Description: To create a public center in Grand Marais that invites in-person and online conversations that analyze marketplace, economic and technical aspects of this proposition: "Upgrade to geothermal in-ground heat capture from the earth and never buy heating oil, propane or natural gas again." Serving as a satellite base for Arrowhead community colleges and the University of Minnesota, the Center proposed in this project would partner with Cook County Higher Education, University of Minnesota, local breweries (craft beers for geo happy hours!) and others to create the technical and economic knowledge base and dialogue required to determine if seeding a geothermal energy industry in Minnesota's North Shore is a sustainable, productive path to a green, clean, (heck, serene) and growthful future.

Geographic Scope: Cook, Lake and St. Louis counties that share the same bedrock North Shore volcanics geology and challenges to drilling and installation.

Estimated Budget: $50,000

For more information, contact: Anne Brataas, Chief Curiosity Officer, Minnesota Children's Press www.minnchildpress.org & President of The Story Laboratory, LLC www.thestorylaboratory.com, anne@minnchildpress.org

R-Kitchen

Project Description: The Rutabaga Project Kitchen (R-Kitchen) envisions a flexible, portable teaching kitchen to enhance individual food security and local food sovereignty for Northern St. Louis County and Bois Forte communities. The R-Kitchen will foster the building of a resilient local food system by providing workforce development and training to those who want to enter the food system labor force as workers or entrepreneurs and will provide low-income individuals and families, especially those with children, an opportunity to gain skills needed to add local foods into their diets. It will grow the capacity of our regional food system to support community health and well-being. Project partners include: AEOA Rutabaga Project, Iron Range Partnership for Sustainability, Bois Forte Food Sovereignty Group, University of Minnesota Extension and Tribal SNAP Education, and Essentia Health.

Geographic Benefit: Northern St Louis County and Boise Forte Reservation Communities

Estimated Budget: $100,000

For more information, contact: Beth Peterson, Director of Planning, beth.peterson@aeoa.org
Marlise Riffel, Iron Range Partnership for Sustainability, mriffel@outlook.com

Community-based social media platform

Description: Build a community-focused social media platform similar to the Front Porch Forum in Vermont. Our version would start with a number of interested communities anywhere in the Arrowhead region. Though our details would be different, here are some of the features of FPF that inspired this proposal:

- The main purpose of FPF to help build and sustain local communities. By default, posts are only published within the local community, though you can request wider distribution if, for example, your lost pet may have wandered further afield.
- FPF was started with a single neighborhood and is still privately owned by the Michael and Valerie (which helps keep it independent). It is now available throughout Vermont and some neighboring communities.
- As of the summer of 2018, "160,000 of Vermont's 260,000 households are part of the network, and of those households, 50 percent of users post to the forum, while 79 percent take "offline actions" due to their membership on their local forum." Sounds like a raging success to me.
- Users must register with their real names and addresses.
- All posts are reviewed by a human moderator (with some help from algorithms) before being published. The main criterion is "no personal attacks".
- Michael "estimates that 99 percent of all of the site's posts make it past the moderators, and that "the vast majority of postings are not controversial in any way.""
- Posts are usually not published until about 24 hours later. This pace ends up with people putting more thoughts into their posts. After writing in the heat of the moment, some users have contacted FPF after posting to ask that their post not be published. For posts that have violated the terms of service, users sometimes thank FPF for denying their post/rant.
- They have only 6 moderators (with "months-long in-house training that covers all aspects") for the 160,000 households and that's apparently enough. I'm not sure if they all work full time or less and don't know how much they're paid.
- FPF was originally email based. It now has a great website and a smartphone app.   The FPF funding model includes the following elements:
- Ad sales to local businesses (the main source of revenue). Adds are kept unobtrusive, especially by comparison to typical commercial social media platforms.
- "Custom subscriptions for politicians or local governmental officials to access the forums of their constituents or jurisdictions, either to notify them of updates or to reach constituents in multi-town districts". That funding source also increases the utility of the platform to the community as a whole.
- Donations from enthusiastic supporters, including an annual pledge drive that raised $150,000 in 2019.
- Expansion to new communities has sometimes been funded by grants or by local governments inviting them to their area and providing funds.

For more information, see these links: https://frontporchforum.com/about-us
https://www.theverge.com/2019/1/24/18129437/front-porch-forum-vermont-social-network-listserv-local-online-community
https://www.youtube.com/watch?v=Uj4Z8ZeJ2W4   https://www.youtube.com/watch?v=AkFd8xepMBM
https://www.youtube.com/watch?v=9tt4NxBoTyA

Geographic Scope: Arrowhead

Estimated Budget: $50,000

For more information, contact: Jim Yount, Chair, Koochiching Technology Initiative, info@koochiching.tech